

WHAT IS CLAIMED IS:

1. A light source module, applicable in a projection display system, comprising:
  - a light source, for providing an incident beam;
  - 5 a light-selection device, arranged on a light path of the incident beam, for passing one part of the incident beam through and reflecting the other parts to be a reflective beam; and
  - a reflective device, arranged between the light source and the light-selection device, and the reflective device having a transparent portion, wherein the incident 10 beam pass through the transparent portion of the reflective device so as to reach the light-selection device, and the reflective beam is reflected by the reflective device and back to the light-selection device.
2. The light source module of claim 1, wherein the light source comprises:
  - 15 a lamp for providing light; and
  - a reflector, coupled to the lamp for focusing light to be the incident beam.
3. The light source module of claim 1, wherein the reflective device is a reflective mirror having a reflective concave surface for bending back the reflective 20 beam.
4. The light source module of claim 1, wherein the light-selection device is a reflective polarizer.

5. The light source module of claim 1, wherein the light-selection device is a color wheel.

5        6. A light source module, applicable in a projection display system having a liquid crystal display (LCD) as an imager, comprising:

          a light source, for providing an incident beam;  
          a reflective polarizer, arranged on a light path of the incident beam, for passing one part of the incident beam through and reflecting the other parts to be a  
10      reflective beam; and

          a reflective mirror, arranged between the light source and the reflective polarizer, the reflective mirror having a reflective concave surface and a transparent portion, wherein the incident beam pass through the transparent portion of the reflective mirror so as to reach the reflective polarizer, and the reflective concave  
15      surface is used for reflecting the reflective beam back to the reflective polarizer.

7. The light source module of claim 6, wherein the reflective mirror is attached by a quarter-wave retardation foil.

20        8. The quarter-wave retardation foil of claim 7, arranged between the reflective mirror and the reflective polarizer.

9. The light source module of claim 6, wherein the light source comprises:  
a lamp for providing light; and  
a reflector, coupled to the lamp for focusing light to be the incident beam.

5           10. A light source module, applicable in a projection display system having a  
digital micro-mirror device (DMD) as an imager, comprising:  
a light source, for providing an incident beam;  
a color wheel, arranged on a light path of the incident beam, for passing one  
part of the incident beam through and reflecting the other parts to be a reflective  
10          beam; and  
a reflective mirror, arranged between the light source and the color wheel,  
and the reflective mirror having a reflective concave surface and a transparent  
portion-, wherein the incident beam pass through the transparent portion of the  
reflective mirror so as to reach the color wheel, and the reflective concave surface is  
15          used for reflecting the reflective beam back to the color wheel.

11. The light source module of claim 10, wherein the light source comprises:  
a lamp for illuminating light; and  
a reflector, coupled to the lamp for focusing light to be the incident beam.